

Claim Rejections - 35 USC § 112

Claims 21-45 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 21 line 9-10 “a tank...connected to at least one of the hydraulic transformer and the connecting line” contradicts line 4-5 “a connecting line solely connecting at least one of the hydromotors to a hydraulic transformer” (emphasis added), since this indicates that the connecting line is connected only to the transformer and the hydromotor.

In claim 25 line 2-3 “the high pressure line to at least one of the hydraulic transformer and the connecting line” contradicts claim 21 line 7, since the high pressure line is solely connected between the pressure source and the transformer.

In claim 31 line 2-3 “one connecting line that is coupled to the low pressure line via a non-return valve” contradicts claim 21 line 4-5, since the connecting line is solely connected between the transformer and the hydromotor.

In claim 33 last two lines “rotate at a second angle which is similar to the first angle” is confusing, since it is unclear what similar means. Perhaps applicant means -- rotate at a second angle about an axis similar to an axis about which the first angle rotates--.

In claim 34 line 7-8 “a plurality of face plate gates for closing the fluid chambers” contradicts the specification, which states “Via the face plate gates 30 and the conduits b in the face plate 10, the cylindrical chambers 12 are in communication with one or two of the radial housing bores 6” (page 7 line 24-26). Suggest that “face plate gates for closing the fluid chambers and” be deleted and replace “connecting the” with – connecting a plurality of—.

In claim 37 and 44 line 3-4 “all three walls between the rotor gates can close a fluid chamber simultaneously” is impossible, since only one of the walls can close a fluid chamber at a time. Suggest that –close respective fluid chambers, simultaneously, for a particular position of the rotor—replace “can close a fluid chamber simultaneously”.

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Claims not specifically mentioned are indefinite, since they depend from one of the above claims.

Double Patenting

Claims 21-27, 31-36 and 43 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 3 of U.S. Patent No. 6,116,138 in view of Crosby and Roche. Claim 3 of U.S. Patent No. 6,116,138 claims a hydraulic transformer converting a first fluid flow having a first pressure into a hydraulic power of a second fluid flow having a second pressure by supplying or discharging a third fluid flow having a third pressure, comprising a rotor freely rotatable in a housing, chambers varying in volume between a minimum and a maximum (claim 1 line 1-13), and a face plate provided with face plate conduits for alternatingly connecting the fluid chambers with three line connections, which face plate is rotatable around a rotation axis by an adjustment means, and is provided with means for, without interruption, keeping a face plate conduit in communication with the respective line connection (claim 3 line 1-5); but does not claim that the transformer is part of an apparatus, which includes a high pressure line solely connecting a pressure source to the transformer, a connecting line connecting a hydromotor to the transformer; and a tank connected to the transformer or the connecting line; a control means controlling the adjustment means and including a sensor for measuring flow in the connecting line; with the sensor either being a flow sensor in the connecting line or high pressure line, a movement sensor for measuring the rotor's rate of rotation, or for measuring the hydromotor's rate of movement; that the hydromotor is a linear cylinder, and the hydraulic system includes means for supplying fluid to the cylinder from the low-pressure line; that the pressure source is an aggregate and the control means are adjusted such that the hydromotor uses less power than an adjustable value, which is a portion of the power the aggregate is capable of supplying; that the maximum volume is maximally three times the minimum volume; or that there is between nine and twelve chambers.

Crosby teaches, for a hydraulic transformer provided with a rotor (e.g. 10, 12, 14) and an adjustment means (including 36) controlling a continuously variable setting of the transformer; that the transformer is part of a fluid system comprising a connecting line (28) solely connecting the transformer to a hydromotor (M); high (18) and low (30) pressure lines solely connecting the transformer to a pressure source (P) and to a tank, respectively; and a control means controlling the adjustment means to control the pressure in the connecting line, including a sensor for measuring pressure (via line 38) in the connecting line, and that the control means can include a variety of other systems, not all directly responsive to pressure in the connecting line (column 3 line 3-6).

Since claim 3 of U.S. Patent No. 6,116,138 and Crosby are from the same field of endeavor, the system using the transformer of Crosby would have been appropriate for the transformer of 3 of U.S. Patent No. 6,116,138. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use the transformer of claim 3 of U.S. Patent No. 6,116,138 in a system wherein a connecting line solely connecting the transformer to a hydromotor; high and low pressure lines solely connecting the transformer to a pressure source and to a tank, respectively; and a control means, including a sensor, controlling the adjustment means to control the pressure in the connecting line, as taught by Crosby, as a matter of engineering expediency.

Roche teaches, for a fluid system comprising a hydraulic transformer (e.g. including 278, 286), provided with a rotor (see above) and an adjusting means (including 298, 300), connected to a hydromotor by a connecting line (e.g. 276); high (e.g. 272) and low (e.g. 296) pressure lines for transporting fluid to and from the transformer; and a control means controlling the adjustment means to control the pressure in the connecting line, including a sensor; that the sensor is a flow sensor (e.g. 366) measuring the flow in the connecting line between the transformer and the hydromotor.

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Official notice is taken that flow to a hydromotor from a transformer can be measured by a number of sensors, which include a movement sensor for measuring the rotor's rate of rotation, and a movement sensor for measuring the hydromotor's rate of movement. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use a sensor which measures flow in the connecting line as the sensor of the modified claim 3 of U.S. Patent No. 6,116,138, as taught by Roche, wherein the sensor is either a flow sensor which measures the flow in the connecting line between the transformer and the hydromotor, as taught by Roche, or which includes either a movement sensor for measuring the rotor's rate of rotation, or a movement sensor for measuring the hydromotor's rate of movement, as a matter of engineering expediency.

Official notice is taken that a hydromotor can be a linear cylinder, and that hydraulic systems include means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the hydromotor of the modified claim 3 of U.S. Patent No. 6,116,138 a linear cylinder, as a matter of engineering expediency, with means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation.

Official notice is taken that it is well known to use a plurality of pumps for a pressure source, with each pump being brought online to deliver more power, as demanded. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use a plurality of pumps for the pressure source of the modified claim 3 of U.S. Patent No. 6,116,138, with each pump being brought online to deliver more power, as demanded, as a matter of engineering expediency (i.e. the pressure source is an aggregate). It is clearly understood that the control means are adjusted such that the hydromotor uses a minimum amount of power, which is less power than an adjustable value, which is a portion of the power the aggregate is capable of supplying.

Claim Rejections - 35 USC § 103

Claims 21-27 and 30-32 are rejected under 35 U.S.C. § 103 as being unpatentable over Crosby in view of Roche. Crosby discloses a fluid system comprising a hydraulic transformer provided with a rotor (e.g. 10, 12, 14) and an adjusting means (including 36) controlling a continuously variable setting of the transformer; a connecting line (28) solely connecting the transformer to a hydromotor (M); high (18) and low (30) pressure lines solely connecting the transformer to a pressure source (P) and to a tank, respectively; and a control means controlling the adjustment means to control the pressure in the connecting line, including a sensor for measuring pressure (via line 38) in the connecting line, and that the control means can include a variety of other systems, not all directly responsive to pressure in the connecting line (column 3 line 3-6); but does not disclose that the sensor measures flow in the connecting line, the sensor either being a flow sensor in the connecting line or high pressure line, a movement sensor for measuring the rotor's rate of rotation, or for measuring the hydromotor's rate of movement; that the hydromotor is a linear cylinder, and the hydraulic system includes means for supplying fluid to the cylinder from the low-pressure line; or that the pressure source is an aggregate and the control means are adjusted such that the hydromotor uses less power than an adjustable value, which is a portion of the power the aggregate is capable of supplying.

Roche teaches, for a fluid system comprising a hydraulic transformer (e.g. including 278, 286), provided with a rotor (see above) and an adjusting means (including 298, 300), connected to a hydromotor by a connecting line (e.g. 276); high (e.g. 272) and low (e.g. 296) pressure lines for transporting fluid to and from the transformer; and a control means controlling the adjustment means to control the pressure in the connecting line, including a sensor; that the sensor is a flow sensor (e.g. 366) measuring the flow in the connecting line between the transformer and the hydromotor.

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Official notice is taken that flow to a hydromotor from a transformer can be measured by a number of sensors, which include a movement sensor for measuring the rotor's rate of rotation, and a movement sensor for measuring the hydromotor's rate of movement. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use a sensor which measures flow in the connecting line in place of the pressure sensor of Crosby, as taught by Roche, wherein the sensor is either a flow sensor which measures the flow in the connecting line between the transformer and the hydromotor, as taught by Roche, or which includes either a movement sensor for measuring the rotor's rate of rotation, or a movement sensor for measuring the hydromotor's rate of movement, as a matter of engineering expediency.

Official notice is taken that a hydromotor can be a linear cylinder, and that hydraulic systems include means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the hydromotor of Crosby a linear cylinder, as a matter of engineering expediency, with means for supplying fluid to the cylinder from the low-pressure line, to prevent cavitation.

Official notice is taken that it is well known to use a plurality of pumps for a pressure source, with each pump being brought online to deliver more power, as demanded. It would have been obvious at the time the invention was made to one having ordinary skill in the art to use a plurality of pumps for the pressure source of Crosby, with each pump being brought online to deliver more power, as demanded, as a matter of engineering expediency (i.e. the pressure source is an aggregate). It is clearly understood that the control means are adjusted such that the hydromotor uses a minimum amount of power, which is less power than an adjustable value, which is a portion of the power the aggregate is capable of supplying.

Conclusion

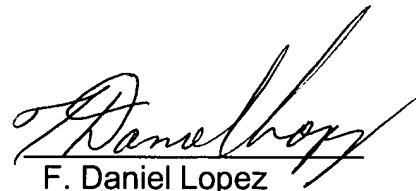
Claims 28, 29, 37-42, 44 and 45 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. § 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Toutant and Schenkelberger refer to hydraulic transformers..

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 872-9302. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.

A handwritten signature in black ink, appearing to read "F. Daniel Lopez", is written over a horizontal line.

F. Daniel Lopez
Primary Examiner
Art Unit 3745
February 24, 2003



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APPL PARTS

IMIS _____ Internal Misc. Paper
LET _____ Misc. Incoming Letter

371P _____
PCT Papers in a 371 Application

A... _____
Amendment Including Elections

ABST _____
Abstract

ADS _____
Application Data Sheet

AF/D _____
Affidavit or Exhibit Received

APPENDIX _____
Appendix

ARTIFACT _____
Artifact

BIB _____
Bib Data Sheet

CLM _____
Claim

COMPUTER _____
Computer Program Listing

CRFL _____
All CRF Papers for Backfile

DIST _____
Terminal Disclaimer Filed

DRW _____
Drawings

FOR _____
Foreign Reference

FRPR _____
Foreign Priority Papers

IDS _____
IDS Including 1449

NPL _____
Non-Patent Literature

OATH _____
Oath or Declaration

PET. _____
Petition

RETMAIL _____
Mail Returned by USPS

SEQLIST _____
Sequence Listing

SPEC _____
Specification

SPEC NO _____
Specification Not in English

TRNA _____
Transmittal New Application

CTNF _____
Count Non-Final

CTRS _____
Count Restriction

EXIN _____
Examiner Interview

M903 _____
DO/EO Acceptance

M905 _____
DO/EO Missing Requirement

NFDR _____
Formal Drawing Required

NOA _____
Notice of Allowance

PETDEC _____
Petition Decision

OUTGOING

CTMS _____ Misc. Office Action

1449 _____
Signed 1449

892 _____
892

ABN _____
Abandonment

APDEC _____
Board of Appeals Decision

APEA _____
Examiner Answer

CTAV _____
Count Advisory Action

CTEQ _____
Count Ex parte Quayle

CTFR _____
Count Final Rejection

INCOMING

AP.B _____
Appeal Brief

C.AD _____
Change of Address

N/AP _____
Notice of Appeal

PA.. _____
Change in Power of Attorney

REM _____
Applicant Remarks in Amendment

XT/ _____
Extension of Time filed separate

BACKFILE DOCUMENT INDEX SHEET

Internal

SRNT _____
Examiner Search Notes

CLMPTO _____
PTO Prepared Complete Claim Set

ECBOX _____
Evidence Copy Box Identification

WCLM _____
Claim Worksheet

WFEE _____
Fee Worksheet

File Wrapper

FWCLM _____
File Wrapper Claim

IIFW _____
File Wrapper Issue Information

SRFW _____
File Wrapper Search Info

Notice of References Cited

Application/Control No.

09/601,961

Applicant(s)/Patent Under

Reexamination

ACHTEN, PETER AUGUSTINIUS

Examiner

F. Daniel Lopez

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U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-2,550,405	04-1951	Crosby	60/451
	B	US-2,933,897	04-1960	Toutant	60/419
	C	US-3,039,266	06-1962		Schenkelberger60/419
	D	US-			
	E	US-			
	F	US-			
	G	US-			
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	I	US-			
	J	US-			
	K	US-			
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	M	US-			

FOREIGN PATENT DOCUMENTS

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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)

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